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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,669	08/19/2003	John D. Tanner	9346	5756

27752 7590 07/03/2007  
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EXAMINER
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KIM, SUN U

ART UNIT	PAPER NUMBER
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1723

MAIL DATE	DELIVERY MODE
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07/03/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/643,669

Applicant(s)

TANNER ET AL.

Examiner

John Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-50 is/are pending in the application.
- 4a) Of the above claim(s) 37-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. Claims 37-50 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in the reply filed on 6/15/06.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 3, 5-7, 12-14, 16-17, 19, 20-22, and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clack (U.S. Patent No. 4,997,553) in view of Koslow (US Patent No. 6,630,016), Derbyshire et al (US Patent No. 6,057,262) and Birdsong et al. (U.S. Patent No. 5,131,277),.

Regarding Claim 1, Clack discloses a water filter device for treating untreated drinking water, the water filter device comprising: a connector (#28) for providing fluid communication between the water filter device and an untreated drinking water source (#12); a low-pressure water filter (#20) of activated carbon filter module in fluid communication with the connector, a

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storage housing (#24) in fluid communication with the low-pressure water filter; an automatic shutoff valve (#18) in fluid communication with the storage housing; and a dispenser (#26) in fluid communication with the storage housing. However, Clack does not disclose a water filter material comprising filter particles consisting of the mesoporous activated carbon and Filter Bacteria Log Removal (F-BLR) of the water filter. Koslow teaches a filter device comprising a cartridge containing filter material comprising activated carbon particles for purifying water containing bacteria (see col. 1, lines 41-63; col. 11, line 46 – col. 12, line 2). Koslow also teaches that the Filter Bacteria Log Removal (F-BLR) of greater than about 2 logs (see Table II, Example 11 E.coli (LRV) of 8.39) and a Filter Viruses Log Removal (F-VLR) of greater than about 1 log (see Table II, Example 11 MS2 (LRV) of 5.14). Koslow teaches that activated carbon powders are mixed with low density polyethylene binder and molded or extruded into a solid composite block (see col. 9, line 63 – col. 10, line 21; col. 11, line 45 – col. 12, line 2). Derbyshire et al teach mesoporous activated carbon powders used as adsorbents of large molecules taking advantage of high pore surface area for increased adsorption (see col. 1, lines 32-35; col. 4, lines 48-55). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute mesoporous activated carbon powder for activated carbon powders of Koslow in the carbon filter of Clack for effectively increasing the adsorption of large molecules in water as suggested by Derbyshire et al (see col. 1, lines 32-38). Birdsong et al teach a water filter with a flow rate of 40 to 300 mL/min (Col. 22, Line 67- Col. 23, Line 2). One of skill in the art would by routine experimentation find the optimum flow rate. It is not inventive to discover the optimum or workable ranges by routine experimentation when the

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general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955).

Regarding claim 3, Koslow discloses that the filter material comprises activated carbon particles coated with cationic material to produce basic activated carbon filter particles (Col. 2, Lines 1-14; Col. 4, Lines 53-60). It would have been obvious to one of ordinary skill in the art to modify activated carbon of Clack to basic activated carbon to provide enhanced electro-kinetic interception of microorganisms as suggested by Koslow (Col. 4, Lines 53-58).

Regarding Claims 5-7, Koslow discloses a water filter comprising activated carbon with a F-BLR of greater than about 4 logs and a F-VLR of greater than about 3 logs (Tables I and II).

Regarding Claim 12, Birdsong et al disclose that at least a portion of the filter vessel (#11) is oriented on a front or side portion of said water filter device (Fig. 1; col. 4, lines 55-59). It would have been obvious to one of ordinary skill in the art to modify the activated carbon filter module of Clack with the filter vessel of Birdsong et al to house the filter media including activated carbon.

Regarding Claim 13, Birdsong et al disclose that the height of the filter vessel (#14) is less than about 75% the height of the water filter device (Fig. 1). One of skill in the art would by routine experimentation find the optimum height to hold filter cartridge. It would have been obvious to one of ordinary skill in the art to make the filter vessel height as so desired or required, including as claimed to optimize filtration.

Regarding Claim 14, Clack discloses that the storage housing (#24) may be separably removed from the filter device via threads (#136) (Fig. 4).

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Regarding Claim 16, Birdsong et al disclose a means of indicating the life of the water filter by a display (#620)(Col. 4, lines 61-68; Col. 20, Lines 4-18). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack with a display to inform the user that the filter requires replacement as suggested by Birdsong et al (Col. 20, Lines 4-18).

Regarding Claim 17, Birdsong et al disclose a sediment filter i.e. pre-filter consisting of polypropylene fibers (Col. 5, Lines 19-26). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack with a pre-filter to remove dirt particles as suggested by Birdsong et al (Col. 5, Lines 24-27).

Regarding Claim 19, Clack discloses a water filter device for treating untreated drinking water, the water filter device comprising: a connector (#28) for providing fluid communication between the water filter device and an untreated drinking water source (#12); a low-pressure water filter (#20) of activated carbon filter module in fluid communication with the connector, a storage housing (#24) in fluid communication with the low-pressure water filter; an automatic shutoff valve (#18) in fluid communication with the storage housing; and a dispenser (#26) in fluid communication with the storage housing. However, Clack does not disclose a water filter material comprising filter particles consisting of the mesoporous activated carbon filter particles and Filter Bacteria Log Removal (F-BLR) and Filter Virus Log Removal of the water filter and a filter vessel. Koslow teaches a filter device comprising a cartridge containing filter material comprising activated carbon particles for purifying water containing bacteria (see col. 1, lines 41-63; col. 11, line 46 – col. 12, line 2). Koslow also teaches that the Filter Bacteria Log Removal (F-BLR) of greater than about 2 logs (see Table II, Example 11 E.coli (LRV) of 8.39) and a Filter Viruses Log Removal (F-VLR) of greater than about 1 log (see Table II, Example 11

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MS2 (LRV) of 5.14). Koslow teaches that activated carbon powders are mixed with low density polyethylene binder and molded or extruded into a solid composite block (see col. 9, line 63 – col. 10, line 21; col. 11, line 45 – col. 12, line 2). Derbyshire et al teach mesoporous activated carbon powders used as adsorbents of large molecules taking advantage of high pore surface area for increased adsorption (see col. 1, lines 32-35; col. 4, lines 48-55). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute mesoporous activated carbon powder for activated carbon powders of Koslow in the carbon filter of Clack for effectively increasing the adsorption of large molecules in water as suggested by Derbyshire et al (see col. 1, lines 32-38). Birdsong et al teach a water filter with a filter vessel (#11) and a flow rate of 40 to 300 mL/min (Col. 22, Line 67- Col. 23, Line 2). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack with a filter vessel to house the filter media. One of skill in the art would by routine experimentation find the optimum flow rate. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955).

Regarding claim 20, Koslow discloses that the filter material comprises activated carbon particles coated with cationic material to produce basic activated carbon filter particles (Col. 2, Lines 1-14; Col. 4, Lines 53-60). It would have been obvious to one of ordinary skill in the art to modify activated carbon of Clack to basic activated carbon to provide enhanced electro-kinetic interception of microorganisms as suggested by Koslow (Col. 4, Lines 53-58).

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Regarding Claims 21-22, Koslow discloses a water filter comprising activated carbon with a F-BLR of greater than about 6 logs and a F-VLR of greater than about 4 logs (Tables I and II).

Regarding Claim 26, Clack discloses that the storage housing (#24) may be separably removed from the filter device via threads (#136) (Fig. 4). Claim 26 does not provide a definite structure that allows filter vessel to be separably removed from the water filter device.

Regarding Claim 27, Birdsong et al disclose a sediment filter i.e. pre-filter consisting of polypropylene fibers (Col. 5, Lines 19-26). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack with a pre-filter to remove dirt particles as suggested by Birdsong et al (Col. 5, Lines 24-27).

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Derbyshire et al and Birdsong et al as applied to Claim 1 above, and further in view of Sipos et al. (U.S. Patent No. 5,371,221).

Regarding Claim 4, Clack in view of Koslow, Derbyshire et al and Birdsong et al does not disclose reduced-oxygen activated carbon particles. Sipos et al teach a reduced-oxygen activated carbon particles produced by eliminating air/oxygen content of the activated carbon with a sweeping gas stream (Col. 2, Lines 7-14). It would have been obvious to one of ordinary skill in the art to modify the activated carbon particles of Clack in view of Koslow, Derbyshire et al and Birdsong et al with reduced-oxygen activated carbon particles of Sipos to reduce the overall heat input needed to preheat the carbon evenly (Col. 2, Lines 43-46).



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5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Derbyshire et al and Birdsong et al as applied to Claim 1 above, and further in view of Baerg et al. (U.S. Patent No. 3,670,892).

Regarding Claim 8, Clack in view of Koslow, Derbyshire et al and Birdsong et al does not disclose a float. Baerg et al teach a water filter device wherein the shutoff valve comprises a float (Col. 5, Lines 49-54). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack in view of Koslow, Derbyshire et al and Birdsong et al with a float to turn off automatic shut off valve to shut off the flow at a predetermined water height as suggested by Baerg et al (Col. 5, Lines 49-54).

6. Claims 9-10 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Derbyshire et al and Birdsong et al as applied to Claims 1 and 19 above, and further in view of Deines et al. (U.S. Patent No. 4,147,631) and Renn (U.S. Patent No. 3,268,444).

Regarding Claims 9-10 and 24, Clack in view of Koslow, Derbyshire et al and Birdsong et al does not disclose a flow regulator or fluid contact time or pressure. Deines et al teach a water filter device comprising a flow regulator (#145) with an incoming water pressure of between 30 and 40 psi (Col. 5, Lines 29-32). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack in view of Koslow, Derbyshire et al and Birdsong et al with a flow regulator to set a limit on the flow rate as suggested by Deines et al (Col. 5, Lines 34-39). Renn teaches a water filter device with a fluid contact time of 15 seconds (Col. 2, Lines 30-34). One of skill in the art would by routine experimentation find the optimum fluid contact time to remove bacteria. It is not inventive to discover the optimum or workable ranges

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by routine experimentation when the general conditions of a claim are disclosed in the prior art.

In re Aller, 105 USPQ 233, 235 (CCPA 1955).

7. Claims 11 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Derbyshire et al and Birdsong et al as applied to Claims 1 and 19 above, and further in view of Deines et al and Scavuzzo et al (U.S. Patent No. 3,333,703).

Regarding Claims 11 and 25, Clack in view of Koslow, Derbyshire et al and Birdsong et al does not disclose a threadably attachable filter vessel or a torque. Deines et al teach a water filter device comprising a threadably attachable filter vessel (#14)(Fig. 4). It would have been obvious to one of ordinary skill in the art to modify Clack in view of Koslow, Derbyshire et al and Birdsong et al with the threadably attachable filter vessel to removably secure the filter to the base as suggested by Deines et al (Col. 3, Lines 29-34). Scavuzzo et al teach a filter comprising a threaded casing with cover that can be installed with a torque of about 4 to 5 ft.-lbs. (Col. 6, Lines 19-25). One of skill in the art would by routine experimentation find the optimum torque to open filter vessel from the base. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955). Claim 25 does not provide a definite structure that allows the filter vessel to be opened with claimed torque.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Derbyshire et al and Birdsong et al as applied to Claim 1 above, and further in view of Kuh et al. (U.S. Patent No. 4,681,677).

Regarding Claim 15, Clack in view of Koslow, Derbyshire et al and Birdsong et al does not disclose a window. Kuh et al teach a water filter device comprising a window (#45) (see col.

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4, line 64 – col. 5, line 7). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack in view of Koslow, Derbyshire et al and Birdsong et al with a window to view the water meter unit as suggested by Kuh et al (Col. 4, Line 64 – Col. 5, Line 4).

9. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Derbyshire et al and Birdsong et al as applied to Claim 1. above, and further in view of Cranshaw et al (U.S. Patent No. 6,117,319).

Regarding Claim 18, Clack in view of Koslow, Derbyshire et al and Birdsong et al does not disclose the volume of the storage housing. Cranshaw et al teach a water filter device comprising a storage housing having a volume of between 500 mL to 3 liters (Col. 4, Lines 1-2). One of skill in the art would by routine experimentation find the optimum volume depending on the required filtered water to be used. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955).

10. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Derbyshire et al and Birdsong et al as applied to Claim 19 above, and further in view of Coates et al (U.S. Patent No. 5,707,518).

Regarding Claim 23, Clack in view of Koslow, Derbyshire et al and Birdsong et al does not disclose radial flow. Coates et al teach a water filter device wherein the untreated drinking water radially enters and radially flows through the water filter material (Fig. 9; Col. 5, Lines 43-50). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack in view of Koslow, Derbyshire et al and Birdsong et al with known radial flow means to

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introduce untreated drinking water to the filter cartridge as shown in Coates et al (Col. 5, line 43-53). Claim 23 does not provide a definite structure that allows a radial flow.

11. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Derbyshire et al and Birdsong et al as applied to Claim 19 above, and further in view of Wadsworth et al. (U.S. Patent No. 6,123,837).

Regarding Claim 28, Clack in view of Koslow, Derbyshire et al and Birdsong et al does not disclose a button. Wadsworth et al teach a filter device comprising a filter release button (#90)(Figs. 4, 17-19; Col. 7, lines 20-38). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack in view of Koslow, Derbyshire et al and Birdsong et al with a releasable button to provide a simple and efficient engagement and release means as suggested by Wadsworth et al (Col. 2, Lines 44-50).

12. Claims 29, 30-31 and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Derbyshire et al, Birdsong et al, Deines et al and Renn.

Regarding Claim 29, Clack discloses a water filter device for treating untreated drinking water, the water filter device comprising: a connector (#28) for providing fluid communication between the water filter device and an untreated drinking water source (#12); a low-pressure water filter (#20) of activated carbon filter module in fluid communication with the connector, a storage housing (#24) in fluid communication with the low-pressure water filter; an automatic shutoff valve (#18) in fluid communication with the storage housing; and a dispenser (#26) in fluid communication with the storage housing. However, Clack does not disclose a water filter comprising the mesoporous activated carbon filter particles and Filter Bacteria Log Removal (F-BLR) of the water filter, a filter vessel, flow regulator, fluid contact time and pressure. Koslow

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teaches a filter device comprising a cartridge containing filter material comprising activated carbon particles for purifying water containing bacteria (see col. 1, lines 41-63; col. 11, line 46 – col. 12, line 2). Koslow also teaches that the Filter Bacteria Log Removal (F-BLR) of greater than about 2 logs (see Table II, Example 11 E.coli (LRV) of 8.39) and a Filter Viruses Log Removal (F-VLR) of greater than about 1 log (see Table II, Example 11 MS2 (LRV) of 5.14). Koslow teaches that activated carbon powders are mixed with low density polyethylene binder and molded or extruded into a solid composite block (see col. 9, line 63 – col. 10, line 21; col. 11, line 45 – col. 12, line 2). Derbyshire et al teach mesoporous activated carbon powders used as adsorbents of large molecules taking advantage of high pore surface area for increased adsorption (see col. 1, lines 32-35; col. 4, lines 48-55). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to substitute mesoporous activated carbon powder for activated carbon powders of Koslow in the carbon filter of Clack for effectively increasing the adsorption of large molecules in water as suggested by Derbyshire et al (see col. 1, lines 32-38). Birdsong et al teach a water filter with a filter vessel (#11) and a flow rate of 40 to 300 mL/min (Col. 22, Line 67- Col. 23, Line 2). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack with a filter vessel to house the filter media. One of skill in the art would by routine experimentation find the optimum flow rate. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955). Deines et al teach a water filter device comprising a flow regulator (#145) with an incoming water pressure of between 30 and 40 psi (Col. 5, Lines 29-32). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack in view of

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Koslow, Derbyshire et al and Birdsong et al with a flow regulator to set a limit on the flow rate as suggested by Deines et al (Col. 5, Lines 34-39). Renn teaches a water filter device with a fluid contact time of 15 seconds (Col. 2, Lines 30-34). One of skill in the art would by routine experimentation find the optimum fluid contact time to remove bacteria. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955).

Regarding claim 30, Koslow discloses that the filter material comprises activated carbon particles coated with cationic material to produce basic activated carbon filter particles (Col. 2, Lines 1-14; Col. 4, Lines 53-60). It would have been obvious to one of ordinary skill in the art to modify activated carbon of Clack to basic activated carbon to provide enhanced electro-kinetic interception of microorganisms as suggested by Koslow (Col. 4, Lines 53-58).

Regarding Claim 31, Koslow discloses a water filter comprising activated carbon with a F-BLR of greater than about 3 logs and a F-VLR of greater than about 2 logs (Tables I and II).

Regarding Claim 35, Clack discloses that the storage housing (#24) may be separably removed from the filter device via threads (#136) (Fig. 4). Claim 35 does not provide a definite structure that allows filter vessel to be separably removed from the water filter device.

Regarding Claim 36, Birdsong et al disclose a sediment filter i.e. pre-filter consisting of polypropylene fibers (Col. 5, Lines 19-26). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack with a pre-filter to remove dirt particles as suggested by Birdsong et al (Col. 5, Lines 24-27).

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13. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Derbyshire et al, Birdsong et al, Deines et al and Renn as applied to Claim 29 above, and further in view of Scavuzzo et al.

Regarding Claim 33, Clack in view of Koslow, Derbyshire et al, Birdsong et al, Deines et al and Renn does not disclose a torque. Scavuzzo et al teach a filter comprising a threaded casing with cover that can be installed with a torque of about 4 to 5 ft.-lbs. (Col. 6, Lines 19-25). One of skill in the art would by routine experimentation find the optimum torque to open filter vessel from the base. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955). Claim 33 does not provide a definite structure that allows the filter vessel to be opened with claimed torque.

14. Claims 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clack in view of Koslow, Derbyshire et al, Birdsong et al, Deines et al and Renn as applied to Claim 29 above, and further in view of Coates et al.

Regarding Claim 32, Clack in view of Koslow, Derbyshire et al, Birdsong et al, Deines et al and Renn does not disclose a wall-mount bracket. Coates et al teach a water filter device comprising a wall-mount bracket (#52)(Fig. 5). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack in view of Koslow, Derbyshire et al, Birdsong et al, Deines et al and Renn with wall-mount bracket to mount the filter to a wall as suggested by Coates et al (Col. 3, line 64 – Col. 4, line 10).

Regarding Claim 34, Clack in view of Koslow, Derbyshire et al, Birdsong et al, Deines et al and Renn does not disclose radial flow. Coates et al teach a water filter device wherein the

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untreated drinking water radially enters and radially flows through the water filter material (Fig. 9; Col. 5, Lines 43-50). It would have been obvious to one of ordinary skill in the art to modify the filter device of Clack in view of Koslow, Derbyshire et al, Birdsong et al, Deines et al and Renn with known radial flow means to introduce untreated drinking water to the filter cartridge as shown in Coates et al (Col. 5, line 43-53). Claim 34 does not provide a definite structure that allows a radial flow.

15. Applicant's arguments with respect to claims 1 and 3-36 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, activated carbon is well-known material used for water purification wherein activated carbon is used for removal of bacteria via adsorption (see col. 1, lines 36-58 of US Patent No. 1,782,850). Known mesoporous activated carbon particles has high pore surface area for increased adsorption activity (see col. 4, lines 48-55 of Derbyshire et al). Substituting known mesoporous activated carbon filter particles for the activated carbon particles of Koslow in the filter device of Clack would have been obvious to a person of ordinary skill in the art for enhanced bacteria and virus removal capability via adsorption on high pore surface area provided by mesoporous activated carbon particles as suggested by Derbyshire et al.



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Applicants argue that the invention does not require the intermediate cationic polymer or biologically active metal. However, Koslow is applied to show that activated carbon powder is used to form an activated carbon block. One of ordinary skill in the art would substitute advantageous mesoporous activated carbon as described above for the activated carbon powder of Koslow for forming an activated carbon block for enhanced adsorption activity.

Applicants argue that neither Mitchell, Koslow nor the Nuchar RGC powder, singularly or in combination, teach or suggest, a filter comprising a filter material consisting of mesoporous activated carbon, wherein the filter has a F-BLR of greater than 2 logs and a F-VLR of greater than about 1 log. However, mesoporous activated carbon particles used in the microporous filter of Koslow is reasonably expected to have claimed F-BLR and F-VLR since known mesoporous activated carbon particles has enhanced adsorption activity as described above. Furthermore, Koslow teaches that the Filter Bacteria Log Removal (F-BLR) of greater than about 2 logs (see Table II, Example 11 E.coli (LRV) of 8.39) and a Filter Viruses Log Removal (F-VLR) of greater than about 1 log (see Table II, Example 11 MS2 (LRV) of 5.14).

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. This application contains claims 37-50 drawn to an invention nonelected with traverse in the reply filed on 6/15/06. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kim whose telephone number is 571-272-1142. The examiner can normally be reached on Monday-Friday 7 a.m. - 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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A handwritten signature in black ink, appearing to read "John Kim". The signature is fluid and cursive, with the first name "John" and last name "Kim" clearly distinguishable.

**John Kim**

**Primary Examiner**

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JK

6/27/07